Enclosure Design

Guide Book
Eurasia Tour - Enclosure Design

What: 60 – 90 min tour of Eurasia exploring the differences in enclosure design based on animal needs

When: can be done year round

Backpack contents:

- Program background information and tour for teachers
- Biofacts and props for use on the tour
- Zoo map – with recommended stops
- Item checklist
- Evaluation of the program to give in with the backpack

To help you find the bits you want in the information, look out for the following:

- Questions or activities are highlighted green
- Biofact/prop use is highlighted yellow
- Background information is highlighted blue
## Biofact Checklist

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<tr>
<th>Item</th>
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<tr>
<td>Komodo Dragon Claw</td>
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<td>Indian Rhino Droppings</td>
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<td>Eurasian Lynx Skull</td>
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<td>Snow Leopard Fur</td>
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<td>Japanese Serow Fur</td>
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<td>Tiger Tooth</td>
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<td>Animal Jumping Length Rope</td>
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<td>A-D Smell Pots</td>
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Eurasia Tour - Enclosure Design

Welcome to the Zoo! Thank you so much for trying out one of our “Backpack tours”. Everything you need for this program should be in this bag. Hopefully, you have time to look through this before you take the kids out on tour. We have included quite a bit of information and activity ideas. Feel free to pick and choose the ones that fit best for your group and your timeframe. We have highlighted the major stops if you are short on time. You must return ALL of these materials including this paperwork when you hand this backpack back at the end of the day.

STOP “A” – Eurasian Gateway

Questioning:

What do animals need to survive?
Do these needs change when the animal is in a zoo?
(AZA and CAZA enclosure standards in additional info)

Look at the camels and think about their natural habitat. How has the Zoo mimicked their habitat?

Zoo’s provide enrichment for their animals. ‘Enrichment’ is something that is added to the enclosure that diversifies the habitat by providing stimuli to encourage natural behaviour and a more engaging environment. How many pieces of enrichment can you find in the camel enclosure? (look in the additional info for enrichment examples)

Background Information:

1. Bactrian camels have evolved to thrive in a desert environment where food is scarce. The Gobi Desert, where Bactrian camels live, has a temperature variation of -40°C to +40 °C. They have many adaptations that allow them to live comfortably in this environment, for example they are able to grow extra fur in the winter to help them stay warm.

2. Greater One-horned Rhinoceroses are solitary animals that live in floodplain grasslands and primarily feed on grasses, fruit, leaves and shrubs with a territory of about 2-8km² which they mark with large dung piles called middens. Can you see any middens in our rhino enclosure?
The camels are outside, but what about the rhino – is he inside or outside?

Think about the rhino’s natural habitat. What does the Zoo have to do differently for the rhino than the camels?

Can you find different types of enrichment for the rhino and the camels?

Biofacts & Questions:

Look at and compare what types of food you see the camels and rhino eating. Is it the same? Why or why not?

Take out the camel and rhino poop and compare them. What is similar? What is different?

Who would you say is the most efficient eater?
Camels are ruminants, which means they chew their food more than once. Why would this be an advantage?
Which enclosure would be easier to clean?
Do you see any poop in the enclosure? If so, where?

Who would need a bigger enclosure? Why?
Think about things like the need for indoor or outdoor enclosures and the ability and necessity to clean them.
How do you think these things affect enclosure design for these animals?

Which animal do you think requires more food and why?
Who needs more access to water?
Questioning:

Look at the Komodo dragons. The Zoo has two different enclosures – one for the adult and one for the 4 youngsters. What is different about them?

Is it easy to find the 4 young komodo dragons? Hint – look up.

Will we always be able to use the same enclosure for the 4 young Komodo dragons? Why/why not?

Which enclosure do you think is harder to make and maintain? Why?

Bio-facts:

Take out the tiger claw and the komodo dragon claw. Compare how each animal uses its claws.

Background Information:

1. Adult Komodo dragons are very big so they have to conserve their energy by resting a lot. This means they spend all their time on the ground waiting for prey to come by.
STOP “C” – Snow Leopards

**Questioning:**

Look around the snow leopard enclosure – can you find the following:

- Places to be away from other animals?
- Protection from the elements?
- An adequate water source?
- Places for the animal to jump on to?
- Enrichment for the animal?

Think about where the snow leopard lives. Why does this enclosure have a roof?

Would the Snow leopard be outside in the winter? Why is there an indoor section at the back? (hint – think about cleaning)

**Activity:**

Snow leopards can jump up to 15 metres in one bound. Can you? Pick a starting point and take the biggest jump you can. How far did you get compared to other animals on the string?

**Bio-facts:**

Take out the snow leopard fur and the lion fur. Make observations about similarities and differences between the two. Think about the lion and snow leopards need to keep warm for where it lives.

**Background Information:**

1. Snow leopards live in the Himalayan Mountains and can climb and jump very far while chasing their prey. As this would be a natural behaviour, Zoos include high platforms to enable physical activity.
STOP “D” – Red Pandas

Questioning:
What special features can you find in the enclosure?
How has the Zoo provided an adequate water source?

Can you see the red pandas? What are they doing? What time of day is it?
What time of year is it?

Bio-facts:
Take out the red panda skull. What kind of food do you think they eat? Can you see food in the enclosure? Now look at the Eurasian Lynx skull. Look for similarities and differences. What do they use their teeth for?

Background Information:

1. Red pandas live in temperate forests in Asia. They can walk on the ground but are much more agile in trees. Can you see climbing structures for the pandas?

2. Red pandas are most active at dawn and at dusk. They can usually be found resting in the huts in their enclosure. As they live in a more temperate climate, if it is too hot or too cold then they will be inside.
Questioning:

Compare the enclosures of the Eurasian Wild Boar and the Amur Tigers. What is different?

Think about each animal’s natural behaviours. How has the Zoo included them in the exhibit design?

Tigers and Boars both have an excellent sense of smell. What kinds of enrichment could you use to encourage each animal to use this sense?

Why do zoos put predators and prey species close to each other?

Activity:

Bring out the 4 small jars and carefully open the lids. Try to identify the different spices in each jar.

Background Information:

1. Amur tigers live in densely forested areas, relying on the trees for cover. You will find many trees in the tiger enclosure. They also love water; you will often find them swimming in the summer months.

2. Boars live in a variety of habitats on all continents except for Antarctica. All boars diets consist of roots, tubers, bulbs, earthworms, and insects; which the boars dig up in the ground. They also like to wallow in mud like the Rhino, for the same reasons.
**Questioning:**

Can you guess where these animals live based on their enclosure?

As mountain dwelling animals, how is their enclosure different from another mountain dweller – the snow leopard?

What kind of special adaptations would these animals have?

**Bio-facts:**

Find the Ibex horns. What do they use their horns for?

**Background Information:**

1. Ibex and Markhors live in the mountainous regions of Europe and Asia.

2. Ibex horns are straight with ridges and the Markhor’s horns twist.
Questioning:

Watch the Macaques play for a few minutes. What challenges does an animal like this pose for a zoo when creating an enclosure?

What special features do you have to include for this animal?

With an animal as smart as primates, what kind of enrichment can a zoo provide?

Activity:

Take out the primate toys. Look and think about how different primates move around. Do you think different primates species would require different enclosure designs or the same?

Background Information:

1. Macaques have a complex social structure that includes males and females. The females gain their rank from their mother and stay with the troop they are born into, whereas the males will move between troops and will fight other males for dominance.

2. Japanese macaques are referred to as the Snow Monkey, as they are the most northern primate other than humans.